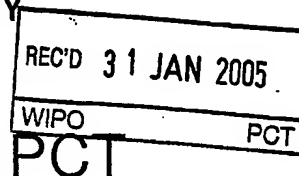


PATENT COOPERATION TREATY

From the
INTERNATIONAL SEARCHING AUTHORITY



To:

see form PCT/ISA/220

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT Rule 43bis.1)

Date of mailing
(day/month/year) see form PCT/ISA/210 (second sheet)

Applicant's or agent's file reference
see form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application No.
PCT/EP2004/050706

International filing date (day/month/year)
05.05.2004

Priority date (day/month/year)
14.05.2003

International Patent Classification (IPC) or both national classification and IPC
G11B7/24, C09B69/04

Applicant
CIBA SPECIALTY CHEMICALS HOLDING INC.

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☒ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will usually be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA"). However, this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of three months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA:



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**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/EP2004/050706

Box No. I Basis of the opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This opinion has been established on the basis of a translation from the original language into the following language , which is the language of a translation furnished for the purposes of international search (under Rules 12.3 and 23.1(b)).
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ in written format
 - ☐ in computer readable form
 - c. time of filing/furnishing:
 - ☐ contained in the international application as filed.
 - ☐ filed together with the international application in computer readable form.
 - ☐ furnished subsequently to this Authority for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/EP2004/050706

Box No. II Priority

1. ☒ The following document has not been furnished:

- ☒ copy of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(a)).
- ☐ translation of the earlier application whose priority has been claimed (Rule 43bis.1 and 66.7(b)).

Consequently it has not been possible to consider the validity of the priority claim. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43bis.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.
3. ☐ It has not been possible to consider the validity of the priority claim because a copy of the priority document was not available to the ISA at the time that the search was conducted (Rule 17.1). This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.
4. Additional observations, if necessary:

Box No. IV Lack of unity of invention

1. ☒ In response to the invitation (Form PCT/ISA/206) to pay additional fees, the applicant has:
- ☐ paid additional fees.
 - ☐ paid additional fees under protest.
 - ☒ not paid additional fees.
2. ☐ This Authority found that the requirement of unity of invention is not complied with and chose not to invite the applicant to pay additional fees.
3. This Authority considers that the requirement of unity of invention in accordance with Rule 13.1, 13.2 and 13.3 is
- ☐ complied with
 - ☒ not complied with for the following reasons:
see separate sheet
4. Consequently, this report has been established in respect of the following parts of the international application:
- ☐ all parts.
 - ☒ the parts relating to claims Nos. 1-10(part)

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.
PCT/EP2004/050706

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

| | | |
|-------------------------------|-------------|------|
| Novelty (N) | Yes: Claims | 6-10 |
| | No: Claims | 1-5 |
| Inventive step (IS) | Yes: Claims | 6-10 |
| | No: Claims | 1-5 |
| Industrial applicability (IA) | Yes: Claims | 1-10 |
| | No: Claims | |

2. Citations and explanations

see separate sheet

Re Item IV

Lack of unity of invention

Unity of invention requires at least one common technical feature which is a contribution to the art. This requirement is obviously not fulfilled in the present case, as the compounds (II) (i.e. (IIa), (IIb), (IIc), (II d)), (III) and (IV)) are representatives of an already known class of compounds. The first document cited in this report which is acknowledged in the description and its relevant subject-matter excluded from claim 1 by a proviso is only one document describing representatives of the compounds (II), (III) and (IV),

It is furthermore known from JP A 60 044 390 and JP A 09 164 767 (both cited in the International Search Report) that metal complexes of this kind may be used as quenchers in optical recording media.

There is - by consequence - no technical feature of the metal complexes claimed which would be a contribution to the art, i.e. the requirements of unity are not fulfilled and the present case has to be subdivided as follows:

Invention 1: Claims 1-10 (part)

Metal complexes of the formulas (IIa), (IIb), (IIc), (II d), compositions thereof, optical recording media comprising these compounds, the use of (IIa), (IIb), (IIc), (II d) in the production of optical recording media and a method for the producing an optical recording medium involving (IIa), (IIb), (IIc), (II d).

Invention 2: Claims 1-10 (part)

Metal complexes of formula (III), compositions thereof, optical recording media comprising these compounds, the use of (III) in the production of optical recording media and a method for the producing an optical recording medium involving (III).

Invention 3: Claims 1-10 (part)

Metal complexes of formula (IV), compositions thereof, optical recording media comprising these compounds, the use of (IV) in the production of optical recording media and a method for the producing an optical recording medium involving (IV).

Re Item V

Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

- D1: Lacroix et al.; Chem. Mater. 8 (1996), 541-545 (cited in the application)
- D2: Handa et al.; Mol. Cryst. Liq. Cryst. 342 (2000), 75-80
- D3: Iwamoto et al.; Chemistry Letters (1976), 343-346
- D4: Wöhrle et al.; Polymer Bulletin 13 (1985), 57-64
- D5: Ledoux et al.; NATO ASI Series, series 3 High Technology 9 (1996), 145-158
- D6: EP A 0 012 241 (Hoechst AG)
- D7: DE A 26 11 697 (Rothkopf, Wöhrle)
- D8: US A 4 265 632 (Hoechst AG)
- D9: JP A 60 044 390 (KDK CORP.)
- D10 JP A 09 164767 (TOKYO INK MFG CO LTD)

The present case discloses metal complexes of the general formula (I) (claims 1), the compounds (IIa), (IIb), (IIc), (IIId), (III) and (IV) as sub-groups of (I) (claims 2-5), compositions comprising (I) and an (oxonol) dye (claims 6-7), an optical recording medium comprising a compound (I) (claim 8), the use of (I) in the production of optical recording media (claim 9) and a method for the producing an optical recording medium involving (I) (claim 10).

The following comments with regard to novelty and inventive step of the first invention as apparent in claims 1-10 only refer to the subject-matter thereof which was actually searched (Art. 17(2) PCT), i.e. the compounds of general formulas (IIa), (IIb), (IIc) and (IIId) as defined in claim 2, compositions and use thereof (cf. International Search Report, sheet C).

Representatives of the compounds (II) are - as is acknowledged in the description - already known from D1. These known compounds are excluded from the subject-matter of claim 1 by a proviso.

Further representatives of the compounds (IIa), (IIb), (IIc), (IIId) are known from the following documents:

- D2: The compound [Ni(saldfm)] on p. 76
- D3: The title compound

- D4: The compound 3.Co on p. 58
D5: The compound NiL (Fig. 4, p. 154) which is one of the compounds listed in cl. 5
D6: The compounds disclosed in the examples
D7: The compounds disclosed in examples 1-3, 6
D8: The compounds disclosed in the examples

None of these documents refers to the use of the compounds described therein as quenchers.

As closest prior art may be regarded both D9 and D10.

These documents disclose metal complexes being structurally close (but not identical) to the compounds (II) of the present case which are used as stabilizers for cyanine and phthalocyanine dyes used in optical recording media.

The problem underlying the present application is formulated in the description as to provide dye compositions for optical recording media with improved properties.

It was demonstrated in the description that the combination of a representative of the metal complexes (II) with oxonol dyes is suitable for optical recording media and that the problem was actually solved.

The combination of the complexes (II) which are different from those in D9/D10 with oxonol dyes (which is a class of dyestuffs not employed in D9 and D10) cannot be considered obvious for the skilled man, and an inventive step in the sense of Article 33(3) is acknowledged for the subject-matter of claims 6-10 as searched.

Further objections:

Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents D2-D10 are not mentioned in the description, nor are these documents identified therein.